IN THE SPECIFICATION:

Please replace paragraph number **[0001]** with the following rewritten paragraph:

[0001] This application is a continuation of application Serial No. 10/231,728, filed August 28, 2002, ~~pending~~now U.S. Patent 6,587,980 B2, issued July 1, 2003, which is a continuation of application Serial No. 09/943,777, filed August 30, 2001, now U.S. Patent 6,523,144, issued February 18, 2003, which is a continuation of application Serial No. 09/758,868, filed January 10, 2001, now U.S. Patent 6,321,353 B2, issued November 20, 2001, which is a continuation of application Serial No. 09/523,579, filed March 10, 2000, now U.S. Patent 6,219,810 B1, issued April 17, 2001, which is a continuation of application Serial No. 09/049,457, filed March 27, 1998, now U.S. Patent 6,138,256, issued October 24, 2000, which is a continuation of application Serial No. 08/691,335, filed August 2, 1996, now U.S. Patent 5,764,650, issued June 9, 1998.

Please replace paragraph number **[0014]** with the following rewritten paragraph:

[0014] Antifuses have been used in place of conventional fuses. Antifuses are capacitive-type structures that, in their unblown states, form open circuits. Antifuses may be "blown" by applying a high voltage across the antifuse. The high voltage causes the ~~capacitive-type~~ capacitive-type structure to break down, thereby forming a conductive path through the antifuse.

Please replace paragraph number **[0017]** with the following rewritten paragraph:

[0017] The present invention relates to a system and method for testing a semiconductor device. The semiconductor device may be any of a variety of devices, including, but not limited to, a chip on a wafer, a bare chip off a wafer, ~~a~~ or a packaged chip including a package and leads. The chip may perform any of a variety of functions including, but not limited to, memory, microprocessor, and ASIC functions. Further, the system and method may involve testing more than one semiconductor device at a time.

Please replace paragraph number **[0031]** with the following rewritten paragraph:

[0031] In the additional tests of the first type, failures in the semiconductor device may be re-identified and a number of re-identified failures may be determined, and subsequently, the decision circuitry may designate the semiconductor device as being ready for the additional procedure if, for example, the number of the re-identified failures is within a fourth number set, the decision circuitry may designate the semiconductor device for repair if, for example, the number of the re-identified failures is within a fifth number set, and the decision circuitry may designate the semiconductor device for additional tests of the first type on the semiconductor device if, for example, the number of the re-identified failures is within a sixth number set. The decision circuitry may repeat these functions until the number of the re-identified failures is within the fourth number set, the semiconductor device is repairable and the number of the ~~re-identified~~ re-identified failures is within the fifth number set, or the additional tests of the first type have been performed a predetermined number of times and the number of re-identified failures is within the sixth number set (in which case the semiconductor device may be repaired, junked, or discarded). The fourth, fifth, and sixth number sets may be identical to or differ from the first, second, and third number sets, respectively. The values of the fifth and sixth number sets may change or remain constant as the functions are repeated.

Please replace paragraph number **[0032]** with the following rewritten paragraph:

[0032] In the additional procedure, the decision circuitry may designate the semiconductor device for tests of a second type to re-identify failures in the semiconductor device and determine a number of re-identified failures, if any. In such a case, the decision circuitry may designate the semiconductor device as being ready for a further procedure if, for example, the number of the re-identified failures is within a seventh number set; the decision circuitry may designate the semiconductor device for repair if, for example, the number of the ~~re-identified~~ re-identified failures is within an eighth number set; and the decision circuitry may designate the semiconductor device for additional tests of the second type if, for example, the

number of the identified failures is within a ninth number set. The seventh, eighth, and ninth number sets may be identical to the first, second, and third number sets, respectively, or some other values.

IN THE CLAIMS:

Claims 1, 12, and 20-22 have been amended herein. All of the pending claims 1 through 22 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

1. (Currently Amended) A system for determining a repairable semiconductor device of a plurality of semiconductor devices comprising:

testing apparatus for performing a test of a first type on ~~a~~ at least one semiconductor device for identifying types of failures in the at least one semiconductor device, the testing apparatus including a support for supporting ~~a~~ the at least one semiconductor device under test of said plurality of semiconductor devices;

processing circuitry for communicating with the testing apparatus for determining ~~a~~ at least one type of failure of a number of the identified types of failures, the processing circuitry providing at least one signal indicative of the at least one type of failure; and

decision circuitry for receiving the at least one signal indicative of the at least one type of failure of the types of failures for considering the at least one type of failure of the identified types of failures in one of for designating the at least one semiconductor device for an additional procedure, for designating the at least one semiconductor device for repair, and for designating the at least one semiconductor device for additional tests of the first type, the decision circuitry for designating the at least one semiconductor device for the additional procedure when the at least one type of failure of the identified types of failures is within a first number set, designating the at least one semiconductor device for repair if the number of the identified types of failures is within a second number set, and determining when the at least one semiconductor device is repairable.

2. (Original) The system of claim 1, wherein the decision circuitry designates the at least one semiconductor device for the additional tests of the first type if the identified types of failures is within a third number set.

3. (Original) The system of claim 2, wherein the first number set includes only zero, the second number set includes numbers greater than zero and less than a threshold, and the third number set includes numbers equal to or greater than the threshold.

4. (Original) The system of claim 2, wherein the at least one semiconductor device is rejected when the identified types of failures is within the second number set and the at least one semiconductor device is not repairable.

5. (Original) The system of claim 1, wherein the processing circuitry is located one of proximate to the testing apparatus and remote from the testing apparatus.

6. (Original) The system of claim 1, further comprising:

a pass bin into which the at least one semiconductor device is relocated if the at least one semiconductor device is designated for the additional procedure; and

a repair bin into which the at least one semiconductor device is relocated if the at least one semiconductor device is designated for repair.

7. (Original) The system of claim 6, further comprising:

a reject bin into which the at least one semiconductor device is relocated is determined to be nonrepairable.

8. (Original) The system of claim 1, further comprising:

a system controller including the decision circuitry; and

a repair station controlled by the decision circuitry of the system controller.

9. (Original) The system of claim 1, further comprising:

a repair station, and wherein subsequent to the decision circuitry designating the at least one semiconductor device for repair, the decision circuitry determines whether the at least one semiconductor device is repairable and, if the at least one semiconductor device is repairable, the repair station repairs the at least one semiconductor device.

10. (Original) The system of claim 1, wherein the testing apparatus includes repair circuitry for performing a repair on the at least one semiconductor device when the at least one semiconductor device is designated for repair and is determined to be repairable.

11. (Original) The system of claim 1, wherein the at least one semiconductor device is binned based upon the number of the identified types of failures.

12. (Currently Amended) The system of claim 1, wherein the identified types of failures include failures of different classes in which the number of identified types of failures is a number of total failures of all classes, and the decision circuitry considers failures of different classes in determining whether to designate the at least one semiconductor device for the additional procedure, designate the at least one semiconductor device for repair, or ~~perform the~~ designate the at least one semiconductor device for the additional tests of the first type.

13. (Original) The system of claim 1, wherein the tests of the first type detect certain defects in the at least one semiconductor device which are not classified as examples of the identified types of failures and, therefore, do not contribute to the number of the identified types of failures.

14. (Original) The system of claim 1, wherein the additional procedure includes transporting the at least one semiconductor device to a predetermined location.

15. (Original) The system of claim 1, further comprising at least one of:
a first temperature-regulated chamber in which tests of the first type are performed; and
a second temperature-regulated chamber in which the additional procedure is performed.

16. (Original) The system of claim 1, wherein the testing apparatus includes probes, and electrical connection is made between the probes and the at least one semiconductor device.

17. (Original) The system of claim 2, wherein the at least one semiconductor device includes leads and the support includes sockets for receiving the leads, an electrical connection for connecting between the testing apparatus and the sockets.

18. (Original) The system of claim 1, wherein tests of the first type include:
subjecting the at least one semiconductor device to various temperatures in a first range of temperatures while monitoring electrical signals on the at least one semiconductor device; and
the additional procedure includes subjecting the at least one semiconductor device to various temperatures in a second range of temperatures while monitoring the electrical signals on the at least one semiconductor device.

19. (Original) The system of claim 1, wherein the at least one semiconductor device comprises one of a chip in wafer form and a package and leads.

20. (Currently Amended) The system of claim 2, wherein the additional tests of the first type are performed, failures in the at least one semiconductor device are re-identified and a number of re-identified types of failures are determined, with the decision circuitry subsequently:
designating the at least one semiconductor device for the additional procedure when the number of the re-identified types of failures is within a fourth number set;

designating the at least one semiconductor device for repair when the number of the re-identified types of failures is within a fifth number set; ~~and~~

designating the at least one semiconductor device for the additional tests of the first type when the number of the re-identified types of failures is within a sixth number set; and

repeating such designations by the decision circuitry until alternately the number of the re-identified types of failures is within the fourth number set, the at least one semiconductor device is repairable and the number of the re-identified types of failures is within the fifth number set, or the additional tests of the first type have been performed a predetermined number of times and the number of the ~~re-dentified~~ re-identified types of failures is within the sixth number set.

21. (Currently Amended) The system of claim 20, wherein the additional procedure designated by the decision circuitry includes:

designating the at least one semiconductor device for tests of a second type to ~~the~~ re-identify types of failures in the at least one semiconductor device and determine the number of re-identified types of failures;

designating the at least one semiconductor device for a further procedure when the number of the re-identified types of failures is within a seventh number set;

designating the at least one semiconductor device for repair when the number of the re-identified types of failures is within an eighth number set; and

the testing apparatus performing additional tests of the second type on the at least one semiconductor device when the number of the re-identified types of failures is within a ninth number set.

22. (Currently Amended) The system of claim 1, wherein the decision circuitry includes:

a testing controller to control tests of the first type; and

a data analyzer receiving data from the ~~at least one~~ test of the first type and determining one of designating the at least one semiconductor device for the additional procedure, designating the at least one semiconductor device for repair, and ~~performing~~ designating the at least one semiconductor device for the additional tests of the first type ~~on the at least one semiconductor device~~.

REMARKS

No new matter has been added. The amendments to the claims address typographical and spelling errors, and improve antecedent basis. The amendments do not affect, or surrender, any scope of any claim as originally filed.

The Applicant again requests entry of the amendments as set forth herein prior to examination of the application on the merits.

Respectfully submitted,

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